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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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EXAMINER

ZAGHMOUT, O

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| ART UNIT | PAPER NUMBER |
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1638

DATE MAILED:

06/07/01

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

| | |
|-------------------------------|--------------------------------|
| Application No. 08/943,144 | Applicant(s) Koshiba et al. |
| Examiner Ousama Zagmout | Art Unit 1638 |

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Oct 24, 2000

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 18-30 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 18-30 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892)

18) Interview Summary (PTO-413) Paper No(s). 18

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) Notice of Informal Patent Application (PTO-152)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) Other: _____

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STATUS OF APPLICATION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The after final response filed on 10/24/2000 has been received and entered (Paper No. 17).
3. The finality of the previous Office action mailed 04/25/2000 has been VACATED in view of the new ground of rejection described below.
4. The disclosure is objected to because of the following informalities: In claim 18, elements b and c, Applicants refer to nucleotide sequences shown by SEQ ID NOS: 2 and 4 respectively. However, these sequences as depicted in the paper copy of the sequence as amino acid sequences rather than as nucleotide sequences. Appropriate correction is required.

5. Status of the claims:

Claims 18-30 are pending.

Claim Rejections - 35 U.S.C. § 112

- I. Claims 18-30 are rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed for the same reasons

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mentioned in the previous Office actions. Additional reasons are stated herein for the citation of the word "gene" in many of the claims (e.g., claims 20-22).

Applicant's arguments filed 10/24/2000 have been fully considered but they are not persuasive.

In summary, Applicants argue that the specification satisfy the requirement of the written description at the time when the application was filed. Applicants state that the present specification provides a description for ascertaining whether or not the encoded enzyme satisfies the aldehyde oxidase activity recited in the claims and that one of ordinary skill in the art would fully recognize that applicants were in possession of this claimed invention. In an effort to support these arguments further, applicants submit a number of protocols from CLONETECH Lab, Inc. However, these arguments have not been found by the Examiner to be persuasive for a number of reasons:

First: The claims encompassed the genes of all plant aldehyde oxidase. The genus claimed encompasses a large number of species which are highly variant in their structure and substrates. The specification discloses only two representative examples that fall within the genus- both isolated from maize. The specification does not disclose structural features that are common to the members of the genus. Therefore, one would not conclude that applicants were not in possession of all plant aldehyde oxidase genes (the genus of all plant aldehyde oxidase genes).

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Second: The Examiner would like to draw the attention of Applicants that the art indicates that the structure of genes with naturally occurring regulatory elements and untranslated regions is empirically determined. For example, the structural elements of "gene" mediating the expression of a particular protein in the seed may be different than the structural elements of the "gene" mediating the expression of the same protein in the flower. Therefore the structure of these elements which applicant considers as being essential to the function of the claim are not conventional in the art. In addition, there is no known or disclosed correlation between the function mediating the oxidization of the aldehyde compound to a carboxylic acid and the structure of the non-described regulatory elements and untranslated regions of the gene. Furthermore, there is no additional disclosure of physical and/or chemical properties. Weighing all factors in view of the level of knowledge and skill in the art, one skilled in the art would not recognize from the disclosure that the Applicants were in possession of the genus of gene. Replacing the word "gene" with --nucleotide --or -- polynucleotide-- would overcome the aspect of the rejection which relates to the citation of the word "gene" in the claims.

B. Applicants argue that specific written description is not needed and that a patent need not to teach , and preferably omits, what is well known in the art. In that respect, Applicants cite Spectra-Physics Inc. v. Coherent Inc as shown in paragraph 3, page 3. This is not found persuasive for a number of reasons: First: this information is not known in the art as discussed above. The nucleotide sequence encoding aldehyde oxidase is not known in the art from any

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plant species other than corn at the time when the application was filed. The definition of the claimed gene in this instance only by size and being amplifiable with combination of primers as set forth in paragraph (e) of claim 18 is not sufficient to define the genus because these primers are only specific to corn, not to any other plant species. Second: the case law cited is misplaced as the nucleotide sequence encoding aldehyde from any plant species other than corn is not well-known in the art.

II. New ground of rejection:

Claim 18 and dependent claims 19-30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Applicants' disclosure does not teach the use of the primers to amplify broadly from a plant, they teach only primers to amplify from maize plant. Therefore, the amendment broadens the scope of the invention set forth in the application as originally filed.

II. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Applicants' disclosure does not teach the use of the primers to amplify broadly from a plant, they teach only primers to amplify from maize plant.

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Conclusion

No claims are allowed.

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Future Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ousama M-Faiz Zaghmout whose telephone number is (703) 308-3724. The Examiner can normally be reached Monday through Friday from 7:30 am to 5:00 pm (EST).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Paula Hutzell Ph.D. can be reached on (703) 308, 4310. The fax phone number for the group is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application should be directed to THE MATRIX CUSTOMER SERVICE CENTER whose telephone number is (703) 308-0196.

Ousama M-Faiz Zaghmout Ph.D.
May 03, 2001



PAULA K. HUTZELL
SUPERVISORY PATENT EXAMINER